PRODUCT DATA

SimSound Type 8601-U

SimSound is a sound generation system for non-NVH driving simulators that offers a realistic acoustic scenario to complete the user's perception of the virtual environment. SimSound provides sophisticated audio algorithms, delivering exceptionally high quality audio signals from complete engine sounds to simple looped sounds. It can be connected to any kind of driving simulator using a simple plug-in interface.

SimSound is delivered preconfigured and ready to go, requiring no user interaction other than starting the PC it runs on.

Uses
- Enhance any existing driving simulator by adding superb audio simulation
- Get the best out of the existing speaker configuration in your simulator
- Take advantage of decades of experience of our audio experts and start acoustic simulation without time-consuming, in-house development
- Convince your customers by realising their projects in a more realistic virtual scenario

Features
- Delivered preconfigured as a ready-to-go system
- Standalone PC hardware automatically starts the audio simulation after power is supplied
- Supplied software tools allow online, real-time checking of the correct simulation performance of SimSound
- Automated tool measures and applies equalization corrections for each loudspeaker to correct for room acoustics

Capabilities

SimSound Type 8601-U is a multichannel system that can be configured to use various speaker setups. It synthesizes the sounds for the driver's vehicle, the surrounding traffic and ambience in real-time, and can be connected to any kind of driving simulator using a simple plug-in interface.

SimSound is delivered with a ready-to-go set of vehicle sounds for interior and traffic noise. It includes two data sets that can be selected from a database comprising vehicles of differing types and sound quality. Additional models can be purchased from Brüel & Kjær. Alternatively, if you have Desktop NVH Simulator Type 3644-A, B or C, you can export models to SimSound for use as sound models.

- Extremely high quality databases result in accurate binaural replay via headphones

- Speaker replay can be configured through an n.1 multichannel speaker system up to and including wave field synthesis (see Sound Rendering Methods)
- Built-in equalization measurement software equalizes speakers in an n.1 system for enhanced quality of sound replay
- Communication between the driving simulator and SimSound via CANbus and network interfaces
- Existing network interfaces are available for IPG CarMaker® and Cruden simulator solutions
- Real-time monitoring of incoming signals and outgoing levels allows optimized fault tracking if the sound output is not what is expected
- The software includes controller microphone handling with which the sound simulation level is reduced by a customisable amount when controller commands are mixed. This allows instructions from the controller to be heard properly by the driver

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Sound Rendering Methods

Various speaker setups can be configured to take maximum advantage of the available electroacoustic hardware and/or the existing simulator room environment:

- Standard: each simulated sound source can be assigned to one or more connected speaker(s)
- Binaural: headphone output is generated by convolving the waveforms with state-of-the-art HRTFs
- NoViSim3D: standard consumer 3D speaker setups (2.0, 4.1, 5.1, 8.1, etc.) can be controlled. Other customized configurations can be set up for rendering by amplitude panning methods
- IOSONO: high-end rendering using the IOSONO IPC100 Spatial Audio Processor can be provided where an optimized wave field is needed

Specifications – SimSound Type 8601-U

SYSTEM REQUIREMENTS

SimSound is a 32-bit application requiring:

- 32- or 64-bit Windows® 7 or 8
- ASIO sound card
- Speaker setup

Ordering Information

Type 8601-U-X[*] SimSound

SUPPORT PRODUCTS
M1-8601-U-X   Software Maintenance and Support Agreement for SimSound

ACCESSORIES REQUIRED
ASIO sound card (ZH-0677, RME UC, recommended)

OPTIONAL ACCESSORIES
WQ-3377   PCAN-USB CAN Interface for USB
Additional datasets for SimSound
Custom dataset for SimSound (vehicle of customer choice)

The installation of SimSound Type 8601-U is **always** handled as a customer-specified project. Please contact your local Brüel & Kjær representative

NVH SIMULATOR SYSTEMS
Type 3644-A   Desktop NVH Simulator, Jury and Engineering
Type 3644-B   Desktop NVH Simulator, Jury only
Type 3644-C   Desktop NVH Simulator, Engineering only

OPTIONAL HARDWARE
Type 4101   Binaural Microphone
HT-0018   STAX SRS-3050 II Electrostatic Headphone System
HT-0019   STAX SR-303 Classic Electrostatic Headphones
UA-1692   ECCI Steering Wheel and Pedals Set

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[*] X indicates the license model, either N: node-locked or F: floating license

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